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IN THE

Supreme Court of the United States

JANUARY TERM, 1975

NO. 74-1041

SILVERLITH, INC.,
Petitioner
v.
AZOPLATE CORPORATION,
Respondent

PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE THIRD CIRCUIT

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TABLE OF CONTENTS

	PAGE
Opinions Below	1
Jurisdiction	2
Questions Presented	2
Statutes Here Involved	3
Statement of the Case	4
Reasons for Granting the Writ	8
Conclusion	12

TABLE OF CASES

CASES	PAGE
Beckman Instruments, Inc. v. Chemtronics, Inc., (C. A. 5, 1970) 439 F.2d 1369	9, 10
Charles Pfizer & Co. v. F.T.C., (C.A. 6, 1968) 401 F.2d 574	10
Contour Saws Inc. v. L. S. Starrett Company, (C.A. 1, 1971) 444 F.2d 1331	10
CPC International v. Standard Brands, Incorporated	11
Monolith Portland Midwest Co. v. Kaiser Aluminum & C. Corporation, (C.A. 9, 1969) 407 F.2d 288	9, 10
Monsanto Company v. Rohm and Haas Company, (C.A. 3, 1972) 456 F.2d 592	10
Nashua Corporation v. RCA Corporation (C.A. 1, 1970) 431 F.2d 220	9
Norton v. Curtiss (CCPA, 1970) 433 F.2d 779	9
Precision Instrument Co. et al. v. Automotive Maintenance Machinery Co., (1945) 324 U.S. 806	2, 8, 10, 11, 12
Shelco Inc. v. Dow Chemical Company, (C.A. 7, 1972) 466 F.2d 613	10
Walker Process Equipment Inc. v. Food Machinery, (1965) 382 U.S. 172	2, 11, 12

Table of Contents.

STATUTES

	PAGE
Sherman Act, Section 2 (15 U.S. Code 2)	3
Clayton Act, Section 4 (15 U.S. Code 15)	3
Title 28, U.S. Code, Section 1254(1)	2
United States Patent Code, Sec. 101 (35 U.S. Code 101)	3
United States Patent Code, Sec. 103 (35 U.S. Code 103)	3
United States Patent Code, Sec. 285 (35 U.S. Code 285)	3

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v.
AZOPLATE CORPORATION,
Respondent

PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE THIRD CIRCUIT

Petitioner prays that a writ of certiorari issue to review the judgment of the U.S. Court of Appeals for the Third Circuit entered on December 2, 1974.

OPINIONS BELOW

The opinion of the District Court for the District of Delaware (App. 826-895)*, printed at Appendix Volume p. 3 to 72, is reported at 367 F. Supp. 711. The opinion and judgment of the Court of Appeals for the Third Circuit printed at Appendix Volume, p. 1 to 2 is unreported.

*References (App.) are to Appendix to Appellant's Brief filed with the Court of Appeals for the Third Circuit. References to (Appendix Volume, p. ....) are to the Appendix filed herewith.

JURISDICTION

The judgment of the Court of Appeals for the Third Circuit was entered on December 2, 1974. Jurisdiction of this Court is invoked under Title 28 U.S. Code, Section 1254(1).

QUESTIONS PRESENTED

1. Is a patentee who has knowingly not disclosed and/or has knowingly misstated to the Patent Office facts upon which the Examiner might have rejected his application immune from the penalties of *Precision Co. v. Automotive Co.,* if the defendant against whom the patent is asserted cannot by clear and convincing evidence prove that "but for" the deceptions by the patentee the patent would not have issued?

2. Does conduct which falls short of the "uncompromising duty" of disclosure set forth in *Precision Co.* deny the patentee the enforcement of his patent?

3. What is the extent of the duty of candor owed by a patentee to the Patent Office during the prosecution of a patent application?

4. When a patentee has violated the uncompromising duty of disclosure required by *Precision Co.* and thereby is subject to the penalties thereof, is he also subject to the penalty of *Walker Inc. v. Food Machinery* which strips him of his exemption from the anti-trust laws?

STATUTES HERE INVOLVED

Sherman Act, Section 2 (15 U.S. Code 2):

"Every person who shall monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce among the several States, or with foreign nations, shall be deemed guilty of a misdemeanor, and, on conviction thereof, shall be punished by fine not exceeding fifty thousand dollars, or by imprisonment not exceeding one year, or by both said punishments, in the discretion of the court."

Clayton Act, Section 4 (15 U.S. Code 15):

"Any person who shall be injured in his business or property by reason of anything forbidden in the antitrust laws may sue therefor in any district court of the United States in the district in which the defendant resides or is found or has an agent, without respect to the amount in controversy, and shall recover threefold the damages by him sustained, and the cost of suit, including a reasonable attorney's fee."

United States Patent Code, Sec. 285 (35 U.S. Code 285):

"The Court in exceptional cases may award reasonable attorney fees to the prevailing party."

United States Patent Code, Sec. 101 (35 U.S. Code 101):

"Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefore, subject to the conditions and requirements of this title."

United States Patent Code, Sec. 103 (35 U.S. Code 103):

"A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made."

STATEMENT OF THE CASE

Petitioner, Silverlith Inc. (Silverlith), and respondent, Azoplate Corporation (Azoplate), were competitors in the manufacture and sale of pre-sensitized positive printing plates at the time this suit was brought. Silverlith was formed on April 2, 1952, about six months before the founding of Azoplate on October 1, 1952, and preceded Azoplate in entering the market with a pre-sensitized positive plate.

On July 12, 1966, Azoplate brought suit in the District of Delaware for the alleged infringement of United States Patent 3,046,110 (Appendix Volume p. 75 to 87) entitled "Process of Making Printing Plates and Light Sensitive Material Suitable for Use Therein". The patent had issued to Azoplate on July 24, 1962 on an application filed in the name of Maxmilian Paul Schmidt, an employee of Kalle A.G. in Germany. Azoplate is wholly owned by American Hoechst Corporation. American Hoechst Corporation and Kalle A.G. are both wholly owned subsidiaries of Farbwerke Hoechst A.G. of Germany (App. DX-4 and 43).

The patent in suit, No. 3,046,110, issued from application Serial No. 163,874, filed January 2, 1962, after a long and devious history which began with the filing of application Serial No. 174,556 by Schmidt on July 18, 1950, followed by the filing of application Serial No. 208,055 on January 26, 1951, the asserted parent of the patent here involved. These two applications were followed by nine others directly involved in the chain of applications which ultimately became Patent 3,046,110. These cases were identified by Kalle and Azoplate as the "865 cases" and differed from each other, as the District Court

pointed out "only by the specific diazo compounds; they were prosecuted together as a group and they were frequently discussed together in the correspondence" (Appendix Volume p. 32 to 33).

Patent 3,046,110 discloses and claims a pre-sensitized positive printing plate having a base material (aluminum sheet) coated with a light sensitized diazo compound of a particular formula and a process of developing such plates by removing the decomposed light struck areas by treatment with a weakly alkaline solution. During the prosecution of the several successive patent applications which ultimately led to the issuance of Patent 3,046,110 the Examiner repeatedly rejected the claims as obvious under 35 U.S.C. 103 in view of French Patent 904,255 which issued in 1945. The French patent taught a pre-sensitized positive plate having a base material (aluminum) coated with a light sensitive diazo compound and a process of developing such plates by removing the light struck areas by treatment with water (Example 7) or an alkali (Example 2). The rejection under 35 U.S.C. 103 based upon the French patent was withdrawn after repeated representations made by applicant in all of the related "865" applications contrary to the facts it knew that the French patent taught an inoperable method and water soluble decomposition products. While making these false representations applicant withheld information on the operability of the French patent and its true relationship to the "865 cases". (App. pp. 132-3, DX51 and 77; Appendix Volume p. 88 to 102).

These representations were contrary to the facts known to applicants as the Court below held (Appendix Volume p. 36). However, the Court below held that there was no clear and convincing proof that "but for"

these representations the patent would not have issued (Appendix Volume p. 38).

The full extent of the misrepresentations and concealment are evident in Azoplate's own documents (Appendix Volume p. 88 to 102).

Azoplate recognized the consequences of making the misrepresentations but rather than make a full and complete disclosure, it decided to make every effort to conceal its knowledge and continue its deception of the Patent Office. The plan of concealment and deception is fully set forth in its letter of October 12, 1954 (Appendix Volume p. 88 to 96) which concludes:

> "N.B.
>
> This letter together with the accompanying memorandum contains information which casts doubt upon and may prove embarrassing when presented to a court should any of our patents get into litigation. Consequently these papers should be kept accounted for and no further mention in writing should be made thereto. If litigation is later contemplated they can be destroyed or removed from the files. Dr. K. Huber will no doubt inform you of recent decisions which required corporations to produce all correspondence relating to a patent in litigation; even those between a corporation patent department and other employees of the corporation." (Appendix Volume p. 89).

This warning is repeated sixteen days later:

> "N.B. Please keep this letter confidential and treat it in the same manner as my previous memorandum

and letter for the reasons stated therein." (Appendix Volume p. 100).

The result of Azoplate's activities in the Patent Office was the issuance of the patent in suit on July 24, 1962 some twelve years and ten patent applications after the filing of the first '865 case.

While the applications were pending, Azoplate was busy on the commercial front writing letters to Silverlith customers asserting that the Silverlith products fell within the scope of claims in U.S. patents which they expected to issue shortly (App. DX-22). The fact is that at the time the letters were written, no claims were allowed and the application was on final rejection. That these letters were written with malice aforethought is clear from the Azoplate files (App. DX-21). The record shows that it was not until January 2, 1962, with the filing of application Serial No. 163,874 that claims were on file which actually covered the Silverlith composition (App. Borchers X6, 7, 8, 9 and DX-22). These continuing threats ultimately led to Silverlith being forced out of business, leaving Azoplate with substantially all of the business in the United States in pre-sensitized positive plates.

REASONS FOR GRANTING THE WRIT

1. The courts below decided a federal question in conflict with the controlling decision of this Court. *Precision Co.* requires "That those that have applications pending in the Patent Office have an uncompromising duty to report to it all facts concerning possible fraud or inequitableness."

The courts below have refused to apply this rule of an uncompromising duty of full reporting on the part of the patentee and require that a defendant against whom a patent is enforced must prove by clear and convincing evidence that the patent would not have issued except for the deceptions practiced by the patentee. Such a burden is virtually impossible to meet because it requires a defendant to go back and prove the state of mind of an Examiner during prosecution of a patent application. It is believed that this is totally inconsistent and in direct conflict with the decision of this Court in *Precision Co.*

This Court should review the decision below to settle whether the uncompromising duty requirement of *Precision Co.* is still the standard by which an applicant must proceed in the Patent Office or whether there is a new reduced standard of disclosure which entitles him to enjoy the benefits of the patent monopoly, even though he has been less than candid or even dishonest with the Patent Office.

2. The holding of the District Court and the Court of Appeals for the Third Circuit in the instant case is in conflict with decisions of the Courts in other Circuits.

In the present case the Third Circuit Court of Appeals adopted the District Court's holding that defendant against whom the patent is asserted and who has suc-

ceeded in proving that misrepresentations were made to the Patent Office with regard to cited prior art has the additional burden of proving by clear and convincing evidence that "but for" the deceptions by the patentee the patent would not have issued. This "but for" rule has also been followed in *Norton v. Curtiss* (CCPA, 1970) 433 F.2d 779 and in *Nashua Corporation v. RCA Corporation,* (C.A. 1, 1970) 431 F.2d 220.

Other circuits have taken an opposite position and have refused to tolerate misrepresentations made by the patentee which may have affected the patentability of his invention. These courts have held that there is an uncompromising duty in a patentee to disclose any such facts, have rejected the "but for" test, and have refused to permit the patentee to enjoy the benefits of a patent monopoly where he has deliberately concealed or misrepresented any fact affecting patentability.

The Fifth Circuit in *Beckman Instruments, Inc. v. Chemtronics, Inc.,* (C.A. 5, 1970) 439 F.2d 1369 reversed the District Court's requirement that a defendant show by clear and convincing evidence that the fraud was "essentially material" and held at 1379:

> "We find either that the district court was applying the wrong legal standard by construing fraud to mean something less than the 'uncompromising duty' of disclosure required by the cases or, alternatively, that the finding is clearly erroneous under the evidence as a whole. We are left with the 'definite and firm conviction' that appellants' conduct did not measure up to the legal standard."

The Ninth Circuit in *Monolith Portland Midwest Co. v. Kaiser Aluminum & C. Corporation,* (C.A. 9, 1969)

407 F.2d 288 at 294 held the mere breach of applicant's uncompromising duty created an unlawful monopoly:

> "A patent applicant has a duty to the Patent Office to make a full and fair disclosure of all facts which may affect the patentability of his invention. A breach of that duty prevents the Patent Office from properly performing its function of preventing the issuance of unlawful patent monopolies."

The following cases are in accord:

Contour Saws Inc. v. L. S. Starrett Company, (C.A. 1, 1971) 444 F.2d 1331

Charles Pfizer & Co. v. F.T.C., (C.A. 6, 1968) 401 F.2d 574

Shelco Inc. v. Dow Chemical Company, (C.A. 7, 1972) 466 F.2d 613

This Court should resolve the question of the patentee's duty of disclosure in conformance with its established practice of resolving conflicts between circuits involving important federal questions.

3. The holdings of the District Court of Delaware and the Court of Appeals for the Third Circuit in the instant case are not only in conflict with the decision of this Court in *Precision Co.* and with the decision of the Fifth Circuit in *Beckman* and the Ninth Circuit in *Monolith,* they are also in conflict with decisions of other panels within the Third Circuit itself, and with other district Judges in the District of Delaware. In the case of *Monsanto Company v. Rohm and Haas Company,* (C.A. 3, 1972) 456 F.2d 592, the majority of a *divided* panel held that one must view a patentee's conduct as a whole in view of the circumstances which led to the issuance of the patent and rejected the narrow

restrictions of the "but for" test which was urged by the minority member of the panel. In this present case, however, a different panel followed the strict "but for" test adopted by the District Court (Judge Wright).

In a subsequent case in the District of Delaware by a different judge (Judge Singleton) *CPC International v. Standard Brands, Incorporated,* (unreported as yet), the "but for" test was rejected. Thus we have not only an internal conflict of decisions of different panels of judges of the Court of Appeals for the Third Circuit but also an internal conflict in the District Court for the District of Delaware which conflict was pinpointed in BNA's "Patent Trademark & Copyright Journal", No. 207, page A-5 for December 12, 1974.

4. The question of what conduct is properly to be construed as such fraud on the Patent Office to warrant a holding of invalidity or unenforceability is of paramount public importance and needs to be clearly delineated. Since this Court's decision in *Precision Co.* and particularly since the decision in *Walker Process Equipment Inc. v. Food Machinery,* (1965) 382 U.S. 172, the defense of fraud on the Patent Office and the related charge of violation of the anti-trust laws has appeared in approximately half of the 600 patent suits filed each year.* These cases have had widely divergent outcomes depending upon the attitude of the Court to whom the defense was asserted, evidence the situation in the Third Circuit and the District of Delaware, *supra.*

It is urged that the Supreme Court should reaffirm its decision in *Precision Co.* by accepting this petition for

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*15 Idea: The Patent, Trademark and Copyright Journal of Research and Education, 619 at 681 (1971).

Writ of Certiorari. Only by this can the confusion which now exists in the Courts be clarified and a patentee made aware of his actual duty to the Patent Office.

CONCLUSION

It is submitted, in conclusion, that it is important that all litigants may have their questions of patent validity and enforceability determined according to uniform decisions. It is also important that the scope of the duty owed by a patentee to the Patent Office and the Courts be determined with uniformity so as to avoid the practice of forum shopping* which the existing conflict of Circuits promotes.

The decision in *Precision Co.* is now *thirty* years old and the decision in *Walker Process* is *ten* years old. Since those decisions the question of fraud on the Patent Office has been the subject of literally thousands of defenses in patent infringement actions and the subject of hundreds of varied decisions. It is now time that this Court settled the wide disparity of positions which have been taken by the lower Courts and chart a more uniform course for both Courts and litigants.

Respectfully submitted,

EUGENE F. BUELL
THOMAS L. SIVAK
Attorneys for Petitioner

Donald A. Gardiner, Jr.
Of Counsel

February 18, 1975

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*BNA's "Patent, Trademark & Copyright Journal," No. 154, page A-1 for November 22, 1973.

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FEB 20 1975
MICHAEL RODAK, JR., CLERK

IN THE

Supreme Court of the United States

January Term 1975

No. 74-1041

SILVERLITH, INC.,
Petitioner

v.

AZOPLATE CORPORATION,
Respondent

APPENDIX VOLUME

to

PETITION FOR A WRIT OF CERTIORARI TO THE
UNITED STATES COURT OF APPEALS
FOR THE THIRD CIRCUIT

TABLE OF CONTENTS

	Page
Judgment Order	1
Opinion	3
Judgment	73
PX-1	75
DX-2	88
Gilbert EX-14	97
Borchers EX-8	101

UNITED STATES COURT OF APPEALS
FOR THE THIRD CIRCUIT

No. 74-1250

SILVERLITH, INC.,

Appellant,

v.

AZOPLATE CORPORATION,

Appellee.

Appeal From the United States District Court
for the District of Delaware

Argued November 11, 1974

Before VAN DUSEN, HUNTER and GARTH, Circuit Judges

Blenko, Buell, Ziesenheim & Beck
Richards, Layton & Finger
Max S. Bell, Jr.
Gardiner, Sixbey, Bradford and Carlson
Attorneys for Appellant

James E. Bryan
Attorney for Appellee

JUDGMENT ORDER

After consideration of all contentions [illegible]

appellant, it is

ADJUDGED and ORDERED that the judgment of the district court be and is hereby affirmed.[1]

Costs taxed against appellant.

---

[1] The district court's fine opinion is set out at 367 F.Supp. 711 (D. Del., 1973).

By the Court,

James Hunter III

James Hunter, III, Circuit Judge

Attest:

M. Elizabeth Freeman

Chief Deputy Clerk

Date: December 2, 1974

IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF DELAWARE

AZOPLATE CORPORATION,	)	
	)	
Plaintiff,	)	
	)	
v.	)	Civil Action No. 3235
	)	
SILVERLITH, INC.,	)	
	)	
Defendant.	)	

Arthur G. Connolly, Jr., and John R. Bowman, of Connolly, Bove & Lodge, Wilmington, Del., and James E. Bryan, Arlington, Va., of counsel, for plaintiff.

Max S. Bell, Jr., of Richards, Layton & Finger, Wilmington, Del., Eugene F. Buell, of Blenko, Leonard & Buell, Pittsburgh, Pa., and Donald A. Gardiner, Jr., of Gardiner, Sixbey, Bradford and Carlson, Arlington, Va., of counsel, for defendant.

O P I N I O N

This is a suit for infringement of United States Patent No. 3,046,110 (110) issued to Maximilian P. Schmidt and assigned to plaintiff. The pleadings present issues of the validity and enforceability of the patent, infringement and an antitrust counterclaim based on alleged monopolization of the presensitized positive printing plate industry.[1] The case has been tried before this Court and the following opinion constitutes its findings of fact and conclusions of law.

BACKGROUND

The subject invention is an improvement in the art of printing plates used to make copies of photographs and other printed material. These plates, which consist of a substrate covered with a photosensitive material (sensitizer), are covered with an original and exposed to light. The image is then developed and the plate can then be inked to print numerous reproductions of the original. Positive working printing plates, such as those of the patent, are developed after exposure to light through the original by removing

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1 Jurisdiction is based on 28 U.S.C. §§ 1337, 1338. Venue is proper under 28 U.S.C. § 1400, defendant being incorporated in Delaware.

the light struck portions of the photo sensitive material thus leaving behind a positive image of the original.

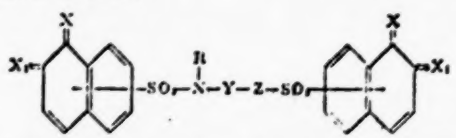
Prior to the present invention the predominant type of printing plate was the "deep-etch" plate. To prepare the sensitized plate a skilled craftsman would first clean and grain the surface of a sheet of rolled zinc or aluminum, then wash the surface and carefully and evenly apply a sensitizer such as a dichromate sensitized gum or albumin solution. The resulting plate was light sensitive in that where light struck the plate the colloid would harden and would be more difficult to remove than the unexposed portions. After exposure the non-hardened sensitizer would be removed, the plate then washed and etched with an acid solution, and a number of other steps taken before the plate would be finally ready for printing.

Two serious drawbacks to these plates were evident. First, the preparation of the sensitized plates and their development after exposure required time and skill. Secondly, because of the brief shelf life of the plates after they were sensitized, the plates had to be prepared not more than thirty-six hours prior to their use.

The present invention relates to presensitized printing plates which can be prepared in a simple process adaptable to continuous assembly line manufacture and which have a shelf life of about two years. The plates can be manufactured, packaged and transported to the location where they are to be used and, when they are needed, unwrapped, exposed and developed. Thus, the printer need not worry about the production of the sensitized plate. He merely orders the appropriate size presensitized plate and stores it until needed. Moreover, the development of an exposed presensitized printing plate is easily accomplished by washing with an alkaline solution and then wiping with ink.

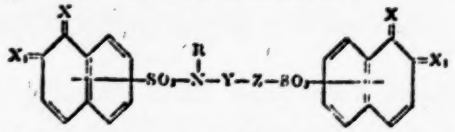
The essence of the invention was the discovery that certain light sensitive diazo compounds when coated on a grained substrate such as aluminum produce printing plates with these desirable properties. Claim 1 is illustrative of the claims to the printing plate:

1. A presensitized printing plate comprising a base material having a coating thereon comprising a compound having the formula



in which X and X_1 are selected from the group consisting of N_2 and O, those attached to the same ring being different, Y is selected from the group consisting of alkylene and arylene groups, Z is selected from the group consisting of oxygen and $-NR_1-$ groups, and R and R_1 are selected from the group consisting of hydrogen, lower alkyl groups, and aryl groups.

Claim 33 is illustrative of the claims drawn to the method of developing these plates:

> 33. A process for developing a printing plate which comprises exposing to light under a master a base material having a compound thereon of the formula
>
> 
>
> in which X and X_1 are selected from the group consisting of N_2 and O, those attached to the same ring being different, Y is selected from the group consisting of alkylene and arylene groups, Z is selected from the group consisting of oxygen and $—NR_1—$ groups and R and R_1 are selected from the group consisting of hydrogen, lower alkyl groups, and aryl groups, to thereby form a decomposition product in the light struck areas and removing the decomposition product by treatment with a weakly alkaline solution.

The specific diazo compound which is used in the alleged infringing plates is identified in Formula 21 listed in the patent and specifically covered by claim 28 relating to a printing plate and by claim 60 relating to the development of such a plate. Azoplate also alleges infringement of generic claims 1, 3, 4, 6, 33, 35, 36 and 38.

The invention was discovered by Maximilian Schmidt in Germany while employed by Kalle A. G. The invention was conveyed by an exclusive license to Keuffel and Esser Corporation, which in turn sold it to plaintiff. Azoplate, the plaintiff, is a newly formed corporation, primarily interested in developing this invention and several others originating at Kalle relating to

presensitized printing plates. (Tr. 23-25) Because Azoplate was in its formative stages, responsibility for prosecuting the patent applications remained with Keuffel and Esser. Later this responsibility was shifted to Engelhard Industries, which owned a substantial share of Azoplate and, finally, to Azoplate itself. (Tr. 25-26) Numerous people employed by the several different corporations prosecuted the patent applications and for this reason the record includes considerable correspondence among these companies, particularly between Azoplate and Kalle A. G.

The ancestry of the patent in suit is schematically represented in the figure attached to this opinion as Appendix A. Beginning with Serial Number 174,556 by Schmidt, plaintiff filed a series of patent applications relating to presensitized printing plates.[2] In this group of applications was Serial Number 208,055 also by Schmidt, which was filed in January, 1951 (the '51 application) but claimed priority in a German application filed on February 1, 1950. The '51 application was rejected on several occasions because of prior art and none of the claims were allowed.

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2 As indicated in the diagram, each of these cases was assigned a K-865 number by Azoplate.

On June 21, 1955, plaintiff filed an application designated as Serial Number 517,086 (the '55 application) which claimed to be a continuation-in-part of eight of the original applications including the two previously mentioned. This application, filed in the names of Schmidt and five other persons, was rejected as unpatentable over certain corresponding Belgian patents whose effective dates as references were subsequent to the '51 and 174,556 applications but prior to the '55 case. The patent examiner denied plaintiff the benefit of the filing date of the earlier patent applications because the cases were not filed in the name of the same inventors as required by 35 U.S.C. § 120. The Belgian patents, therefore, were effective references against the '55 application.

To correct this "problem" plaintiff filed a continuation-in-part application, Serial Number 718,453[3] (the '58 application) in the name of Schmidt corresponding to the '51 application. In an attempt to obtain the earlier filing date, plaintiff petitioned the Patent Office to revive the original '51 application to make it

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3 Serial Number 718,453 was one of a series of CIP's of the '55 application, the others having no bearing on the resolution of the issues in this case.

copending with the '58 case. This request was refused. Plaintiff then filed affidavits in the '58 case by all six inventors named in the '55 application. The affiants claimed that they were German nationals and that they had relied on the advice of their American patent counsel that they were properly joined as inventors in the oath of that application. In addition, the five inventors other than Schmidt disclaimed any interest in the subject matter of the '58 application. The patent examiner still refused to grant this application the benefit of an earlier filing date, and his decision was affirmed by the Patent Office Board of Appeals. However, the Court of Customs and Patent Appeals reached a different conclusion. It found that the inventors named in the oath of the '55 case had been misjoined through error without deceptive intention and, accordingly, that this mistake could be corrected pursuant to 35 U.S.C. § 116. The Belgian patents, therefore, were not effective references. After reviewing certain other issues the Court of Customs and Patent Appeals allowed claims to both the presensitized printing plate and the method of developing it. In re Schmidt, 293 F.2d 274 (1961).

On January 2, 1962, plaintiff filed Serial Number 163,874 (the '62 application), a continuation-in-part of the

application allowed by the Court of Customs and Patent Appeals. After a few formal corrections, this application issued as the patent in suit.

OBVIOUSNESS

Silverlith raises the defense that the 110 patent is invalid because the claimed subject matter would have been obvious to one of ordinary skill in the art with knowledge of the teachings of three references available more than one year prior to the earliest filing date upon which patent 110 can rely. These references are French Patent No. 904,255 issued February 19, 1945, an article written by Rudolph Zahn which was available as PB 25,781 prior to February 1, 1950, and German application K169,065 an abstract of which appeared as PB 17547-S3 also publicly available prior to February 1, 1950. All of these references report work performed by Kalle A. G.

All three of these references are cited at the end of the 110 patent. Plaintiff emphasizes that the statutory presumption of validity is strengthened in such instances where the pertinent prior art has been considered by the Patent Office before allowing the application. Azoplate also asserts this presumption

is further strengthened because the application was favorably considered by the Court of Customs and Patent Appeals. Silverlith, however, contends that the references were withdrawn because of either fraudulent misrepresentations by plaintiff or a mistake of law and that the presumption is weakened or totally destroyed.

The file wrappers of the applications culminating in patent 110 reveal that the three references were almost continuously cited as bases for rejecting the claims. In the '58 application the claims were rejected as unpatentable in view of the French patent or the abstract of the German application, each in light of the Zahn article. On appeal the Board of Appeals held that the Zahn article appearing as a microfilm PB report was not a "printed publication" and could not be considered a reference for rejecting the claims. (DX 53A, pp. 160-161) Since this article was indispensable to either theory of rejection, both were overruled by the decision of the Board of Appeals.

The question of whether the Zahn article was a printed publication was not appealed to the Court of Customs and Patent Appeals and that court did not have before it the issue of obviousness in view of the combination of references. Zahn, however,

was considered as evidence on the question of whether the invention was made in Germany prior to January 1, 1946 for purposes of Section 3 of Public Law 380, the court concluding that the invention described in the claims to the presensitized printing plate and the method of developing them was not invented at that time.[4] In re Schmidt, supra at 280-281. After allowance of these claims by the Court of Customs and Patent Appeals, the '62 application was filed. The patent examiner merely cited the prior art and allowed the claims after certain formal changes, although he had the opportunity to reject the application using the abstract of the German patent, the French patent or any other prior art except Zahn.

The presumption of the validity of a patent set forth in 35 U.S.C. § 282 is strengthened where the best prior art has been considered by the Patent Office, Metal Film Co. v. Metlon Corp., 316 F.Supp. 96 (S.D.N.Y. 1970), and is weakened or destroyed where important portions of the prior art have not been discovered

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4 (a) In effect, this statute bars a German national from obtaining a valid United States patent on an invention made in Germany before January 1, 1946. Public Law 380, 80th Cong., 61 Stat. 794.
(b) The Court of Customs and Patent Appeals, although not squarely confronted with the issue before this Court, found that Zahn did not disclose the Schmidt invention.

or analyzed. Dole Refrigerating Co. v. American Contact Plate Freezers, Inc., 265 F.2d 627 (3rd Cir. 1959); Scripto Inc. v. Ferber Corp., 267 F.2d 308 (3rd Cir. 1959).

In the present case all three references were known to the Patent Office. The Zahn article was not considered to be a reference by the Patent Office, but the plaintiff does not now contest that it is a "printed publication" and, therefore, a valid reference. Because the Patent Office never determined that the claims were patentable over Zahn when considered with other pertinent prior art, the normal presumption of validity is weakened in this case. See Phillips Electronic & Pharmaceutical Indus. Corp. v. Thermal & Electronics Indus. Inc., 311 F.Supp. 17, 38 (D.N.J. 1970), aff'd. 450 F.2d 1164, 1176 (3rd Cir. 1971); Hubner v. Sunbeam Corp., 320 F.Supp. 298 (D.N.Y. 1970), aff'd. per curiam 450 F.2d 878 (2nd Cir. 1971).

The procedure for determining questions of non-obviousness is set forth in the leading case of Graham v. John Deere, 383 U.S. 1 (1966):

> While the ultimate question of patent validity is one of law, . . . the § 103 condition, which is but one of three condi-

> tions, each of which must be satisfied, lends itself to several basic factual inquiries. Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or non-obviousness of the subject matter is determined. Id. at 17.

Silverlith emphasizes the theory that the French patent and the Zahn article would make the invention obvious to one of ordinary skill in the art. The French patent (DX 3, Transl. DX 4) describes positive printing plates using a metal base, such as aluminum sheet, coated with a diazo compound. Particularly, Example 7 of this patent states:

> An aluminum sheet prepared by the "Eloxal" process is coated with a 2% alcoholic solution of ethyl-2-diazo-1-hydroxy-naphthalene-5-sulfonate and dried. It is exposed to light under a positive original, whereupon the sheet is rubbed with a grease color and developed with water. A positive print is obtained. (DX 4, p. 6).

The French patent notes that the printing plates it discloses can replace those "coated with photosensitized layers of colloids, for instance layers of bichromated gelatin," apparently meaning the "deep-etch" plate. The patent then states:

> Furthermore, it has already been proposed to photosensitize the colloidal layers by means of diazo compounds. In all of these cases, organic colloids have been used up to now for the production of images. The Applicant has found, surprisingly, that one can do without the coating of organic colloids on metal plates or sheets sensitive to light for the production of printing plates if diazo compounds are used as photosensitive compounds. In this case, it is preferable to employ aluminum or zinc plates. (DX 4, p. 1).

The Zahn article (DX 40, Transl. DX 41A) is significant because it discloses the particular diazo compound identified as Formula 21 of the 110 patent and indicates that this material has some light sensitivity. Silverlith maintains that it would be obvious to one skilled in the art to substitute this particular diazo compound in the positive working printing plates of the French patent.

There are, of course, differences between the prior art and the claimed invention. The primary defects of the French patent are, first, that it does not disclose the particular diazo compound of Formula 21 and, second, that it teaches development of the exposed plate with "water" and not with an alkaline solution. The Zahn article does not relate to printing plates but to the preparation of "tanned images" or diazotypes,

apparently an early method of photoreproduction. In the Zahn process the diazo compound is used with a colloid and the action of light passing through the original and striking the mixture would hopefully harden the colloid. The printing plate so produced would, thus, be a negative working printing plate.

Azoplate argues that neither of the processes as described in the references is operative and that to combine these two inoperative teachings to obtain a functional product is clearly not an obvious step. The Zahn article admits on its face that the purpose for which the diazo compounds were used was not achieved, "Unfortunately, the tanning power of these easily obtained and stable materials is very low." (DX 41A, p. 1). There is no indication that the diazo compounds, including Formula 21, were considered useful even in this negative working process.

With respect to the French patent, Azoplate maintains that the disclosure of "water" development does not result in a viable printing plate because development of the exposed plate can only be achieved using a strongly alkaline solution. Considerable testimony was given on this point by the technical

experts presented at trial. They agreed unanimously that neutral (pH7) water is an ineffective developer of exposed plates made according to example 7 of the French patent. They also agreed that a functioning printing plate could not be produced with a weakly alkaline developer. Indeed, the exhibits produced by both parties at trial to show the comparative quality of printing plates made according to the French patent could only be prepared by development with a strongly alkaline solution, the best results being achieved, according to plaintiff's expert, at a pH of 12.

The only possible explanation for the use of "water" in the French patent is that the tap water in the particular locale where the invention was made was, in fact, highly alkaline. There was no evidence showing that this was the case. Azoplate argues that the operative developers are not embraced by "water" and that one strictly adhering to the teachings of the patent would neither be able to produce a printing plate nor encouraged to explore other diazo compounds as positive printing plate sensitizers.[5]

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5 It is also significant that Example 7 of the French patent disclosed "alcohol" as the solvent for the diazo compound. Inpreparing exhibits in accordance with the French patent,

Because there has not been an administrative determination that the patent in suit is not obvious in view of the French and Zahn references, the testimony of the experts presented at trial is particularly significant in establishing the level of skill in the art of making printing plates at the time of this invention and in deciding whether the invention would have been obvious to an ordinarily skilled artisan of that time.

Plaintiff's sole expert was Dr. Johannes Munder, a chemist for the Kalle Company, who had worked in the field of graphic arts for the previous twenty-five years and in the specific areas of diazo chemistry and printing plates since the late 1950's. Dr. Munder testified about the relative quality of printing plates prepared according to the 110 patent and those prepared according to Example 7 of the French patent. He testified that printing plates made of grained aluminum foil presensitized with the diazo

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Azoplate used a high boiling point alcohol which might have inhibited the subsequent ketene reaction of the diazo when struck by light. (Tr. 223, 445-447). Silverlith, on the other hand, did not even use an alcohol, because of the ambiguity of that term. (Tr. 429, 450). Nevertheless, plaintiff does not contend that "alcohol" is so vague as to further render the French patent's disclosure inoperative.

compounds of Formulas 21 and 11 of the 110 patent and developed with alkaline solutions of pH7.8 and 12 (Tr. 232, 263) respectively, could be used to print as many as 16,000 good copies. (Tr. 209) As many as 27,000 good copies were made from plates using Formula 11 as the sensitizer. (Tr. 207) On the other hand, identical printing plates sensitized with the compound of Example 7 of the French patent and developed with a solution of pH12 (Tr. 232) were of much inferior quality under identical printing conditions. These plates showed almost immediate damage and the images produced rapidly diminished in quality as additional prints were made. Dr. Munder also stated that it was impossible to develop the image on these latter plates using water which was neutral or slightly alkaline and that it was necessary to use highly alkaline solutions to produce any image on the printing plates. In preparing the exhibits Dr. Munder apparently attempted to use the best conditions for each plate. (Tr. 235-237) He admitted that the diazo compounds of Formulas 21 and 11 were two of the better sensitizers disclosed in the 110 patent. (Tr. 239-240).

Dr. Munder further testified that prior to 1950 it would not have been obvious to use the diazo compounds shown in Zahn to produce positive printing plates according to the French

patent.[6] He also admitted that the French patent indicated that light sensitive materials used in making negative printing plates could be used without the colloid. His reasoning was based on the inherent inoperativeness of the French patent's disclosure of "water" development and the disclosed inoperability of "Formula 21" in the Zahn reference. According to Dr. Munder, if one followed the teachings of the French patent, he would not produce a positive printing plate and would not be encouraged to try other diazo compounds particularly those which were taught to be ineffective by Zahn. The witness pointed out that the diazos of the French patent are esters while those claimed in the present invention are amides, these types of compounds being somewhat different, particularly in the degree of alkalinity required to develop the exposed diazo. (Tr. 284-287) Finally, Dr. Munder noted that correlations could not be drawn between the operability of sensitizers for diazotype and for printing plates or between those used in negative printing plates and those best suited for

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6 Dr. Munder briefly conceded that the invention would have been obvious, but he clarified his statement later by stating it was obvious at the present date, not at the time the invention was made. (Tr. 260-263).

positive ones. (Tr. 279-283).

Silverlith presented three expert witnesses, the first being Mr. Charles Benbrook, formerly a chemist for General Analine and Film Corporation (GAF), who had worked since 1940 in the field of diazotype and had some experience in the area of printing plates. Mr. Benbrook testified that it would have been obvious to one of ordinary skill in the art to substitute the compound taught in Zahn in the diazo sensitized printing plates disclosed in the French patent and to develop such a plate with an alkaline solution. (Tr. 393-395) His testimony was unpersuasive, however, because he apparently confused the references and utilized the teachings of the patent itself to show the obviousness. For example, in explaining why the substitution was apparent he relied on the teaching of the patent that esters and amides are equivalent. (Tr. 395-397) He also admitted that the printing plates of the French patent could not be developed with water (Tr. 403) and that the Zahn reference disclosed that the diazo of Formula 21 was unsuccessful in tanning colloids. (Tr. 400) His confusion of the references and his inability to combine the teachings in a logical way undermined his opinion on the question of obviousness.

The second expert for Silverlith was Mr. Robert Lefebvre, a chemist by education with extensive experience in lithography extending back before World War II. Mr. Lefebvre also rendered his opinion that the claimed invention would have been obvious to one of ordinary skill in the art who had the Zahn reference and the French patent before him. Unfortunately, Mr. Lefebvre was not very explicit as to the time that the invention would have been obvious, stating that it was obvious because he had been doing just such research on the use of diazo compounds in positive printing plates in the "early sixties." (Tr. 425-426) Moreover, although the references were publicly available at that time, Mr. Lefebvre tried dozens and dozens of diazo sensitizers. He did not arrive at the present combination, although the plate he produced and sold was admittedly not a very good printing plate. (Tr. 428, 430).

Mr. Lefebvre also testified, as did Mr. Benbrook, that it was possible to produce a working positive printing plate from the teaching of Example 7 of the French patent and a printing plate so prepared was introduced into evidence. Although this printing plate was operative, cross examination disclosed two variations from the preparatory method of the disclosure. First, the

sensitizer was not dissolved in an "alcohol" because "alcohol . . . was kind of vague and normal alcohols would not dissolve. There was no mention of what kind of alcohol and there are 100,000 of them . . ., probably a couple of million, if you want to get technical." (Tr. 429) Secondly, these plates could only be developed using a strong alkali. (Tr. 415-416) Mr. Lefebvre had difficulty identifying a reference showing the development of a positive printing plate with alkali. (Tr. 430-432).

The third expert witness was Dr. Harold Kwart, a professor of chemistry at the University of Delaware whose field of expertise is reaction mechanisms. Dr. Kwart, who had also worked in the areas of photo chemistry and diazo chemistry, testified that the invention would have been obvious to one skilled in the art in 1945 with knowledge of the two references. His rationale was that one skilled in the art would have been aware of the teachings of Oscar Sus that certain diazo materials when struck by actinic light undergo a ketene rearrangement which results in the formation of carboxylic acid which would be soluble in an alkaline medium. (Tr. 445) Armed with this knowledge, one skilled in the art would know that the photodecomposition product of Example 7 of the French patent should be developed in an alkaline solution.

Although the diazo of Formula 21 was described by Zahn as an ineffective tanning agent, Dr. Kwart then noted that the reference made the important disclosure that this diazo compound has a "sufficiently high quantum efficiency to be converted upon short time exposure to ultraviolet light into a ketene, the ketene being readily converted to a carboxylic acid and therefore applicable for purposes of a process in which alkaline development would be required." (Tr. 439-442).

The task of deciding the question of obviousness is not made easier in this case by the fact that the Court must refer to a point in time over twenty-three years in the past. Nor is the testimony of the four expert witnesses particularly helpful. Each of them rather predictably gave ultimate conclusions favorable to his side, yet each was somewhat shaken on cross examination: Dr. Munder, perhaps inadvertently, admitting briefly to obviousness, Mr. Lefebvre being confused as to the time of obviousness, and Mr. Benbrook and Dr. Kwart (Tr. 463-464), confusing the teachings of the patent in suit with the prior art. Since the Zahn article was not considered a reference in the Patent Office, no presumption of validity applies to this particular ground.

Nevertheless, when all the testimony is considered, the Court is unpersuaded that the Zahn reference and the French patent can be connected in such a way as to render the invention obvious to one of ordinary skill in the art. Several basic defects appear in the references. First, it is unanimously conceded that in order to produce a viable printing plate using the teaching of the French patent it is necessary to use a strongly alkaline solution. From the testimony of Silverlith's experts it would not appear that such a solution is included within the expression "water"[7] and there is no evidence that the waterwhere the invention of the French patent was produced met this criterion. At best, one skilled in the art at that time who was aware of the general workings of diazo materials might have known that the product of the reaction of the diazo with light was an acid which would dissolve in alkali. But this knowledge had never before been applied to diazo sensitized positive printing plates. Accordingly, to make any plate from

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7 Certain statements of defendant's experts show that, although "water" includes a range of alkalinity other than neutral pH 7 water, it does not embrace the materials which develop the exposed printing plates of Example 7. See Tr. 403 (Benbrook) and Tr. 452 (Kwart).

the teachings of the French patent one would have to apply this information about the light decomposition product of diazos for the first time to the development of printing plates.

Even assuming that this modification would be a natural and easy step for the skilled lithographer, it is more difficult to understand where he would get the impetus to try the particular diazo compound of the Zahn reference. True, the French patent states that one can use light sensitive diazo compounds that were previously used with colloids, but the difficulty is that the Zahn reference clearly and unequivocally states "unfortunately the tanning power of these . . . materials is very low." While one might be led to try diazo compounds used effectively in tanning colloids, it cannot be assumed that it would be obvious to try materials with "very low" tanning power. (Tr. 461).

The only attempt logically to bridge this gap was made by Dr. Kwart, on the basis that, although the tanning power is low (because a weak rather than a strong acid is produced), Zahn made the substitution logical because he disclosed that this diazo had a high "quantum efficiency." A careful reading of the reference as translated and an examination of Dr. Kwart's testimony

does not indicate where the high quantum efficiency was taught by Zahn.[8] In the absence of such a teaching, the use of this diazo in the preparation of presensitized positive printing plates would not have been suggested to an ordinary lithographer or chemist prior to this invention.

In summary, the differences between the prior art and the present invention are substantial enough that one of ordinary skill would not find the invention obvious. The Court is persuaded by the reasoning of Azoplate that the inherent inoperativeness of the printing plates as disclosed in the French patent and the explicit ineffectiveness of the diazo compounds of Zahn militate against a conclusion of obviousness. This is not an instance where teachings of positive results can be readily combined to achieve the invention. Instead, one would have to assume that despite the negative results inherent in the references, a skilled lithographer would substitute the diazos of Zahn in the modified

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8 According to Dr. Kwart the diazo compound shown in Zahn did not tan the colloid because the acid it formed after reaction to light was a weak acid. Dr. Kwart did not successfully rebut the possibility that the weak tanning effect was because the amount of acid formed was small, not because the acid was weak. (Tr. 451) Zahn does not say which is the case.

(alkaline developed) printing plates of the French patent. The Court is unconvinced that there would be good reason for him to do so and the Court finds the invention not obvious in view of the French patent and the Zahn reference.

Silverlith also relies on a third reference, a German patent application of Kalle designated as K-825, which was filed in 1943 (DX 66) and issued as a German patent (No. 865,410) on July 8, 1949 (Def. Brief, p. 11). This application is aimed at diazotype and, admittedly, shows a wide range of diazo compounds which may be applied to a support, including metal, exposed to light through an original and developed with an alkaline medium. The reference, however, only mentions the production of images on the support itself and does not suggest inking it and using it for a printing plate. Silverlith contends that this reference either fully discloses the present invention or would make it obvious to one of ordinary skill in the art.

Silverlith errs, however, in its argument that this German patent application as disclosed in PB17547-S3 was not fully considered by the Patent Office because like Zahn it was not considered a printad publication. The file history of the

'58 application shows that the claims were rejected over PB17547-S3 in view of Zahn and that the Board of Appeals only determined that Zahn was not a printed publication. Since the German patent application was a valid reference before the Patent Office and the claims were, nevertheless, allowed, Silverlith must bear the burden of demonstrating error in this administrative decision.

The only evidence that the invention was obvious in view of this reference are certain letters prepared by those prosecuting the Kalle patent applications in this area. (DX 33E, DX 33S) These letters recognize that the K-825 German application presented a serious obstacle to the series of United States patent applications. The primary difficulty, however, is that these letters relate to numerous applications not here involved, which apparently concerned other diazo sensitizers. Throughout these letters there is no statement or admission that the particular printing plates as claimed in the present patent are obvious from or disclosed by the German application. At no time was this reference presented to any of the expert witnesses at trial and there was no testimony by them concerning the obviousness of this invention in view of that disclosure.

The presumption of validity is strengthened where, as here, the reference was considered by the Patent Office. Although this Court cannot abdicate its judicial function to review the validity of the patent in suit, it lacks the expertise to review the references and, without more, to repudiate the prior administrative determination. Although the letters indicate that the K-825 German application is pertinent prior art against at least some of the K-865 applications, there is insufficient evidence to support a conclusion that the particular claims now before the Court are disclosed or made obvious by that reference. The defendant has failed to sustain its burden of proof that the patent is invalid in view of the German application.[9]

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9 In urging that the patent is invalid because of the prior art, Silverlith repeatedly relies on a letter to von Meister from a patent attorney at Engelhard which states in a footnote: "This letter, together with the accompanying memorandum may prove embarrassing when presented to a court should any of our patents get into litigation." (DX 2) The content of the letter indicates that it is difficult to distinguish the compounds described in the applications from those in the prior art. There is no indication that the positive printing plates sensitized with these compounds and claimed here are unpatentable. This letter relates to the entire spectrum of diazo compounds in pending Azoplate applications.

FRAUD

Silverlith maintains that the patent is invalid because it was obtained by fraud, first, because Azoplate knowingly withheld material information from the Patent Office with respect to the French patent and, second, because it knowingly misrepresented facts regarding the inventorship of the '55 application.

The first theory of fraud arises from the failure of Azoplate to disclose to the Patent Office that the French patent would work only if the developing medium were alkaline. In a letter of October 5, 1951 Mr. von Meister, president of Azoplate, wrote to Juten who was handling the K-865 cases at Keuffel and Esser:

> The compound mentioned in the French patent, having the structure shown above, works in the sense of application K865 if development of the exposed image is carried out with an alkaline solution. It does not work if water is used for development. (DX 5).

Although this letter was written with respect to serial number 174,556 its content should not be limited only to that case. The K-865 cases appear to have been distinguished only by the

specific diazo compounds; they were prosecuted as a group and they were frequently discussed together in the correspondence. Although numerous people prosecuted these applications at various times, apparently, at any one time they were all handled by the same person.

After the Examiner cited the French patent as a reference against the '51 application, applicant, through counsel at Engelhard Industries, responded on February 12, 1953:

> The newly cited French patent to Kalle & Co. (904,255) discloses printing plates having diazo compounds as light sensitive substances. Example 7 of this reference is the most pertinent to applicant's invention. That example is for napthoquinone-(1,2)-diazide-(2)-5 sulfonic acid ethyl ester. The particular group of compounds recited by applicant are far superior especially for use in printing plates, than those described in the French patent. Applicant's claims distinguish over Example 7 in the French patent by the recitation of the compounds not taught in the French patent. Also the light decomposition products of the diazo compound in Example 7 of the French patent are soluble in water whereas the light decomposition products of the present invention are insoluble in water. Furthermore, applicant develops his image by the use of alkaline solutions. This is not taught in the French patent. More important, however, is that plates of applicant's invention print thousands of copies all in excellent condition, whereas those of the French patent produce poor copies originally and those only few in number. (Emphasis added) (DX 51, pp. 45-46).

Despite these comments the examiner again cited the French patent against the application in the next action following which applicant argued that the reference was distinguishable because, "the compounds described in that reference are totally dissimilar to the compounds described" in the application. The examiner, still unmoved, then finally rejected the claims as unpatentable over the French patent.[10]

Before allowing the '51 application to become abandoned, Schmidt and five others filed the '55 application in the specification of which appeared:

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10 Silverlith also alleges that the French patent was dropped because of misrepresentations made in the prosecution of serial number 174,556. In that case, Azoplate represented that, if the compounds of Zahn were substituted in Example 7 of the French patent "and then developed with water as described in Example 7, no printable image is obtained." (DX 77, p. 108) There is no fraud because this statement was true; the plates can only be developed with an alkaline solution. In an earlier response Azoplate noted with respect to Example 7, "Development by means of alkali is not disclosed and if the development method described in the example (using merely water) is followed no useful result is obtained." (DX 77, p.67) Moreover, this application was not in the series of applications resulting in the 110 patent, the correction of the '55 application by the subsequent '58 case removed it as a parent case.

> In Example 7 of the French Patent 904,255 a process has been described in which 2-diazo-naphtol-(1)-5-sulfonic acid ethyl ester has been used as the light sensitive substance the development of the exposed layer being effected by means of water. This process, however, does not produce practically usable printing plates since no acceptable copies can be made from the images thus produced. (DX 52, p. 2).

The French patent was never cited by the examiner against this application beset with difficulties caused by the joinder of six inventors.

In the prosecution of the '58 application, however, the French patent was again cited and applicant responded in his brief of May 19, 1959 before the Patent Office Board of Appeals:

> French 904,255 does not disclose the process of claims 23-33, since each of these claims recites the formation of a positive image from a positive original by treatment with a weakly alkaline solution. (DX 53A, p. 165).

In the examiner's answering brief no mention was made of the reference and the rejection apparently dropped. The French patent was not considered by either of the reviewing tribunals.

These facts, which constitute essentially the entire evidence on this issue, fall short of showing either that the

patent is invalid because obtained by fraud or that it is unenforceable because of the inequitable conduct of the plaintiff. It is true, that in the response of February 12, 1953 applicant represented contrary to the facts that it knew, that the "light decomposition products of the diazo compound in Example 7 of the French patent are soluble in water. . . ." [11] This comment did not have any apparent effect on the examiner who again cited the reference in the succeeding and final two actions taken on the '51 patent application. It was not until six years after this misstatement that, in response to a simple statement pointing out that the claims were limited to development with a weakly alkaline solution, the French patent was finally dropped as a reference. For these reasons it does not appear that "but for" this statement the patent would not have issued, Norton v. Curtiss, 433 F.2d 779 (C.C.P.A. 1970), and this evidence does not support a finding of fraud.

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11 The misstatement was in part overshadowed by subsequent statements that the French patent did not describe a working printing plate.

This still leaves open the question of whether the applicant breached its duty of full and complete disclosure in the Patent Office proceedings by failing to inform the Patent Office that Example 7 of the reference would work if developed with an alkaline solution. It is difficult, however, to understand the relevancy of changes which must be made in a disclosure in order to complete the description of an operative invention. The issue before the examiner in this case was whether the claimed invention was disclosed by the prior art or made obvious to one of ordinary skill in the art in view of that disclosure. It is significant in this respect that applicant continuously stressed that the reference did not teach alkaline development and that, as disclosed,[12] the printing plates of the reference were inoperative. If the invention did not work as disclosed in the reference, then the reference was inherently defective and the fact that it might

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12 As previously discussed, the experts agreed that operative printing plates could be produced from Example 7 of the French patent only if a strongly alkaline solution were used as a developing medium, i.e. pH 12. The reference's teaching of "water" development does not disclose such an alkaline treatment.

actually work if performed according to the teachings disclosed in the invention of the '62 application is inconsequential. The reason for this is apparent. Because of the defective disclosure, there is no proof, but only surmise, that the artisan of the prior art actually made the same invention.

Viewed in this light, the nondisclosure of the conditions of operability of the prior art in this case is distinguishable from the nondisclosures in cases such as Monsanto v. Rohm & Haas, 456 F.2d 592 (3rd Cir. 1972) and the "Tetracycline Cases" (American Cyanamid Company v. F.T.C., 363 F.2d 757 (6th Cir. 1966) and Charles Pfizer & Co. v. F.T.C., 401 F.2d 574 (6th Cir. 1968)). In Monsanto the applicant, among other things, concealed the herbicidal qualities of a compound described in the prior art. In the Tetracycline Cases the applicant failed to disclose that the claimed compound was coproduced in a process known in the prior art. In each of these cases, therefore, the applicant withheld material facts regarding the inherent nature of either a compound or a process taught by the references. This Court while agreeing with these cases does not find in them a duty to disclose to the Patent Office modifications which need be made to a disclosure in order that it be a working invention. For this reason, the Court finds that

the information that the plates of the French patent could be satisfactorily developed with a strongly alkaline solution was immaterial and need not have been disclosed to the Patent Office.

The second allegation of fraud is founded on the contention that the oath of the '55 application, in which six inventors were named, and the subsequent affidavits correcting the misjoinder of these inventors were false and fraudulent. Silverlith maintains that these documents were "filed with the intention of deceiving the Patent Office and the Courts and for the purpose of achieving the then seemingly most advantageous position in the Patent Office with respect to related cases and the prior art."

As mentioned previously, the '55 application contained the combined disclosures of eight earlier applications and was filed in the names of the six men who had previously been named singly or in various combinations as the inventors of the parent applications. The patent examiner rejected the application on the basis that it was not entitled to the priority date of the earlier applications[13] and, therefore, was anticipated and barred

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13 The applications must have the same named inventors. 35 U.S.C. § 120.

by the intervening public disclosure of companion patent applications filed in Belgium. Subsequently, the '55 case was refiled as a series of applications containing the contributions of each of the six inventors, among these applications being the '58 application filed in the name of Schmidt alone.[14] Along with this application was filed an affidavit by Schmidt and the five misjoined inventors of the parent application stating that "upon being properly apprised of the legal requirements for making an oath in a patant application" they discovered that they were not inventors of all the subject matter in the application. They claimed that the application was filed "through error and without deceptive intention." (DX 53A, p. 40) Subsequently, Schmidt filed an affidavit noting:

> The said parent application Serial No. 517,086, also contains some subject matter of which I am now informed and therefore believe,

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14 Silverlith maintains that Azoplate chose Schmidt as the inventor of this application in order to gain the priority date of its earliest applications, which were filed in his name. Defendant cites portions of a letter from von Meister, a complete reading of which shows that subject matter was to be included in the '58 application only if Schmidt was, indeed, the inventor. (DX 301, ¶ 2c).

> I was not the inventor, and my execution of the oath of said parent application as one of the joint inventors was made under a mistake of fact arising out of the belief that since I knew myself to be the inventor of a portion of the subject matter thereof, and since I was advised by the United States patent attorney who was responsible for the preparation, filing and prosecution of the application that it would be proper for me to take such an oath, I made same, but without any deceptive intent, relying for the propriety of this action upon the advice given me by the aforesaid United States attorney. (DX 53A, p.68).

The examiner and the Patent Office Board of Appeals refused to give ground on the issue of priority date and the case was appealed to the Court of Customs and Patent Appeals. The precise issue before that Court was whether on the facts of record applicant should be allowed to correct the misjoinder of inventors in the '55 case under 35 U.S.C. § 116 which only permits such a correction where the misjoined inventor is joined "through error . . . without any deceptive intention on his part. . . ." Construing this language for the first time the Court of Customs and Patent Appeals held that this standard "was intended not only to replace the more cumbersome expression 'inadvertence, accident or mistake' previously used but was intended to relieve applicants from the narrow applica-

tion of the old terms. . . ." In re Schmidt, supra, at 279. Applying this more liberal test to the facts the Court noted:

> In the present case, a mistake was made in joining the inventors in the intermediate joint application. There is nothing of record from which to question that they believed themselves to be properly joined or that the attorney prosecuting the application likewise believed them to be properly joined.
>
> * * * Since the error in the present case apparently occurred without any deceptive intention, we find no justification for denying appellant the remedial protection of section 116. (Emphasis added) Id. at 278.

Silverlith does not assert any error in the reasoning of that Court. Instead, it contends that much of the evidence surrounding the circumstances of the patent prosecution were unavailable or hidden and that "it is inconceivable that if the Court had before it all the facts it could have reached [the] conclusion [it did]." This Court, however, has reviewed these additional facts and finds nothing therein to warrant a different result than that reached by the Court of Customs and Patent Appeals.

Among the new facts which Silverlith points to is that the '55 application was purposefully filed to combine the earlier applications to prevent one from issuing and becoming a reference

against the others. That this was, at least in part, the purpose of filing this application is clear from a letter of Mr. Kovalich, a patent representative of Azoplate, to von Meister explaining the results of an interview with the patent examiner after the '55 case had been rejected:

> Our Washington associate advised that we very frankly lay our cards on the table since we were in no position to do otherwise.
> Mr. Gilbert explained the purpose of initiating the c.i.p. applications in order to prevent one of the parent cases from anticipating another parent case in view of the span of years between priority dates, and especially in view of the related subject matter. (DX 29A).

That the '55 application was filed with this purpose in mind, does not amount to fraud in the procurement of the patent. Nothing was concealed or misrepresented in the filing of the '55 application; the disparity in inventorship with the parent applications was readily ascertainable and, in fact, was immediately discerned by the examiner. Although as a matter of tactics the filing of the combined application to circumvent potential rejections might have amounted to clever Patent Office practice, nevertheless, it did not amount to fraud because the objective facts were readily apparent from the face of the application.

Finally, the Kovalich letter shows that even the intent of filing the combined application was disclosed at least informally to the Patent Office.

Silverlith, however, further maintains that Azoplate filed the combined application with knowledge of the law pertaining to inventorship and, accordingly, the affidavits of the inventors claiming mistake of law were fraudulently filed. It is true that in one letter of September 11, 1952, the patent attorney at Keuffel and Esser then handling the applications indicated to Kalle A.G. that joinder of inventors is improper in a case where the inventors are responsible for distinct features of the subject matter claimed.[15] But this was more than three years prior to the filing of the combined application, and shortly after this letter was written, prosecution of the cases was assumed by the attorney at Engelhard who

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15 This advice was given at a time when the 1952 Patent Act was about to go into effect. The representations of the attorney were with regard to changes caused by that new law:

> However, joinder of inventors would probably still be improper if they are independent inventors of distinct features of the subject matter claimed. (DX 31W, pp. 3-4).

ultimately prepared the '55 application. Despite this single statement correctly stating the law, there is nothing in the record to show that the six named inventors did not believe that they were properly joined in the application.[16] And there is no evidence that the attorney likewise knew that so combining the inventors was improper. Indeed, the representations made to Kalle A.G. in one letter from this attorney substantiate the statements in the affidavit of Schmidt that error was caused by reliance on the erroneous advice of the American patent attorney.[17]

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16 The oath of this application does not state that each inventor has invented all the subject matter of the application. (DX 52, p. 135).

17 On July 9, 1954 this attorney wrote Kalle stating the following:

> * * * For your information we might state that applications in the United States can be classified in several technical groups, i.e. C.I.P., continuation, and division. Where the refiled application is related to the prior application by the fact that the inventors of the first application are included among the inventors of the second application, and the second or refiled application is filed while the first one is still pending, the refiled application may assume anyone of the three classifications enumerated above. When the subject matter of the disclosure of the two applications is compared and it is found that

Nor can any adverse inference be drawn because the affidavits were filed almost three years after the '55 application was filed.

> the second case contains subject matter more than was present in the first case, e.g. contains "new matter," then the application is considered to be a C.I.P., and does not receive the old filing date for the new matter, while receiving said old filing date for the common subject matter.
>
> * * *
>
> As to the problem of consolidating some of these applications, the question is somewhat different than arose in connection with your previous considerations regarding refiling all the method disclosures under the single inventorship of Dr. Schmidt. In the situation which now arises we would not attempt to single out any one inventor but would merely add all the inventors together in a combined application. * * * Such a combined application bearing the names of all the inventors of the individual cases would receive the benefit of the filing dates of each individual case as to the common subject matter. We must be careful in prosecuting such combined application to be sure that when the application is ready for allowance only those inventors are retained as were involved in the invention of the subject matter allowed in the claims, i.e. we should drop inventors whenever we are forced to cancel claims to the subject matter which they have invented.
>
> In combining application we should join only those which have some common connection, regardless of who the inventors are. * * * Since we will obtain the benefit of the priority dates of the basic German applications, we would not have to worry about the issuance of these basic applications in foreign countries. . . . (Emphasis added) (DX 33J).

Since the inventors' mistake was in following the erroneous advice of counsel, this delay was justified.

In short, defendant has failed to disclose any additional evidence which would lead to a different conclusion than that reached by the Court of Customs and Patent Appeals. Certainly there is not the clear and convincing evidence necessary to show fraud in the procurement of this patent.

FOREIGN PATENTS

Related to the preceding defense is the contention by Silverlith that the claims are anticipated by the disclosures of certain German and Belgian patents resulting from applications corresponding to those filed in the United States. The earliest of these patents is dated January 15, 1951 and the latest, June 11, 1953. (DX 69, 70, 71, 74, 75, 76). There is no dispute that these references disclose the invention; rather, the issue is whether the patent in suit is entitled to the priority date of the '51 application and the German patent application on which foreign priority is based.

In order to claim priority under 35 U.S.C. § 120, the inventorship of copending applications must be the same. Defendant maintains that the filing of the '55 application in the names of six inventors interrupted the continuity of inventorship in this series of applications and that the patent is only entitled to the filing date of the '58 application. Azoplate concedes that the '55 application was erroneously filed in the names of six inventors, but claims that it has a right to correct the inventorship, as it did, under 35 U.S.C. § 116. In essence, defendant asserts that even if the acts of filing the '55 application and the corrective affidavits do not amount to fraud, nevertheless, Azoplate is not entitled to correct the inventorship under the remedial statute.

Again Silverlith does not dispute the holding of the Court of Customs and Patent Appeals that the mistake in joining these inventors was "error" within the meaning of Section 116. It is suggested that additional facts now before this Court show that Azoplate was not entitled to remedy the inventorship. The precise question is whether the joinder of these inventors in an application combining the subject matter of prior applications, which described the separate invention of each inventor entity for the purpose of preventing one application from issuing and

becoming a bar to the others constitutes "deceptive intention" within the meaning of Section 116.

No cases have been cited to the Court interpreting this language as it appears in either Section 116 or Section 256, which must be read together. Patterson v. Hauck, 341 F.2d 131, 138 (C.C.P.A. 1965). However, the Court's research has unearthed at least three cases in which a finding of "deceptive intent" has been made. Merry Manufacturing v. Burns Tool Company, 206 F.Supp. 53 (N.D.Ga. 1962), aff'd., 335 F.2d 239 (5th Cir. 1964); Intermountain Research Co., Inc. v. Hercules, Inc., 171 U.S.P.Q. 577 (C.D.Cal. 1971); and Kraftco Corp. v. Beatrice Foods Co., 342 F.Supp. 1361 (D.N.J. 1971). Although these cases do not elaborate or further define the statutory language, the results of these cases infer that "deceptive intention" means an evil motive to conceal, mislead or trick.

In Merry Manufacturing one of two inventors filed a continuation application, which issued as a patent, in his own name without informing the coinventor, apparently to appropriate the invention for himself. Likewise, in Intermountain Research an additional person was intentionally named as an inventor in

one application and in another application an inventor was purposely deleted to prevent certain third parties from discovering their interests in the issued patents. In the same case, a third application filed as a "continuation" deliberately deleted a coinventor "because to have joined him would have openly recognized that much of the subject matter of the 1965 application was not found in the parent application." Finally, in Kraftco the Court refused to permit the addition of a coinventor to an issued patent where the inventors and patent counsel, after a complete study of the facts, had previously asserted to the Patent Office and third parties that the alleged "coinventor" had merely been a witness to the invention.

Unlike the prior cases, the filing of the '55 application here was intended neither to conceal an adverse interest in the invention, nor to appropriate the invention, nor to hide information from the Patent Office. All the evidence presented points to the conclusion that the patent attorney prosecuting the applications believed that he was combining the applications in a proper manner. His error was apparently founded on a gross but innocent misunderstanding of the inventorship requirements of the patent law.[18]

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18 Although some language in Kraftco, when read in the abstract,

Furthermore, the error could not in any way have "deceived" the Patent Office as previously noted. This being the case, the Court finds it inconsequential that as part of the motivation for filing the case the plaintiff intended to put itself in a better position to receive patent coverage on the subject matter described in all the "parent" applications. For these reasons the Court finds that the misjoinder of inventors in the '55 application was not made with "deceptive intention" and that Azoplate was entitled to correct the inventor entity under 35 U.S.C. § 116.

PRIOR PUBLIC USE OR SALE

The last defense raised by Silverlith is that the invention was in public use or on sale more than one year prior to the filing of an application describing and claiming the invention. Silverlith argues that not until the '62 application was filed

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might imply that a "mistake of law" is not excusable under the remedial statutes, that case is distinguishable. The Court there could not find error without deceptive intention where, after full review of the background facts, the attorney and the inventors made directly contrary representations to the Patent Office and to the District Court, apparently for the sole purpose of manipulating the inventor entity of the patent and the parent application to receive a priority date.

The Court of Customs and Patent Appeals accepted the "mistake of law" here as "error" within Section 116.

did any of the claims in the series of applications cover Sensitizer 97, the sensitizer used on Silverlith's positive presensitized printing plates. Specifically, defendant asserts that none of the claims in the '58 application covered plates using this material and, therefore, that plaintiff is not entitled to the filing date of any of the applications prior to the '62 case.

A prior public use or sale constituting a bar under 35 U.S.C. § 102(b) must be established by clear and convincing evidence. Julian v. Drying Systems Co., 346 F.2d 336 (7th Cir. 1965). Although defendant has not proven when the first public use was made, sufficient evidence has been introduced to conclude that the invention was in public use and sale more than one year prior to the filing of the '62 application. Harper, the president of Silverlith, testified that Silverlith and General Analine and Film Corporation (GAF) entered into an agreement whereby Silverlith licensed from GAF the right (pursuant to a pending GAF patent application) to use Sensitizer 97 on an aluminum base material, GAF would market the plates through its salesmen, and Silverlith would also have the right to market these plates under its own label. Although the date this agreement was entered into is

not identified,[19] Harper testified that royalties were paid to GAF beginning in 1953. (PX 5, p. 106) There is evidence that as early as June 14, 1956, Silverlith and GAF were test marketing these printing plates and that GAF was ordering plates from Silverlith. (PX 5,Ex. 11).

The clearest evidence of public use and sale is obtained from Azoplate's own surveillance of the market. An affidavit filed by von Meister in the '58 case in support of a petition to have the application made "special" because of infringement states that on June 2, 1954 he learned that a "competitive presensitized positive working aluminum lithographic plate had . . . been field tested in the United States." (DX 53A, p. 114) A letter from von Meister of that date corroborates his knowledge that these plates distributed by Ozalid (a part of GAF) were made by Silverlith. (Tr. 46-48, DX 1) The affidavit then states that, although von Meister did not know of any sales of these plates between June 2, 1954 and the summer of 1958, "widespread infringement" of the

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19 A formal distributorship agreement was entered into on July 1, 1958. (DX 38A).

application began in the United States at that time. On January 9, 1959 Azoplate wrote Lithoplate, Inc., (a subsidiary of Harris-Intertype) which had largely taken over the distribution of Silverlith plates, and GAF that it had determined that the plates infringe its pending application. (PX 5, Ex. 27).

From these facts, it appears that Silverlith plates appeared on the market at the latest by the summer of 1958. Harper described this product as a plate of aluminum, coated with a substrate of calcium hydroxide and sensitized with GAF Sensitizer 97. (PX 5, pp. 73-74) The Court finds that this plate infringed the present patent because (1) the base material is not specified by the claims (aluminum is described in the specification), (2) the word "comprising" leaves open the addition of a substrate and (3) the diazo sensitizer known as Sensitizer 97 is Formula 21 of the patent. This last fact is discussed below in the section dealing with infringement.

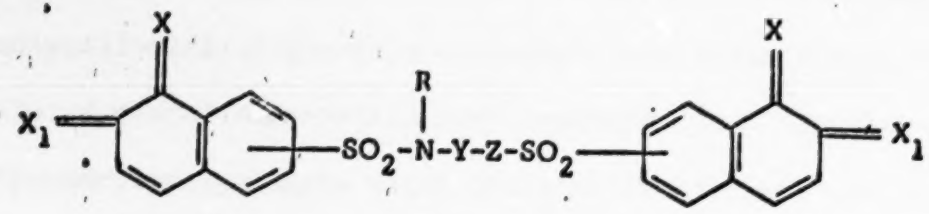
Azoplate does not contest that sales of this infringing plate antedated the filing of the '62 application by more thanone year, but instead insists that the patent is entitled to the priority date of the earlier applications because the invention, including Formula 21, has been continuously described and claimed in

the applications. There is no question that this particular diazo compound is described in the '62 case by specific examples and a specific structural formula, or that printing plates using this sensitizer and their development are covered both by claims drawn to the specific formula and those covering the generalized diazo structure.

The three parent applications, however, do not specifically disclose or claim this particular diazo by its structure. Each of these applications does disclose the use of diazos prepared from naptho-quinone-(1,2)-diazide sulfonic acid or its chloride, which is used in preparing all the diazo compounds, and, among numerous other reactants, benzidine. These two materials when reacted apparently produce the diazo identified as Formula 21. Arguably, this sensitizer is also covered by the claims drawn to the generic formula in the two earlier applications.

It is clear, however, that the claims of the '58 application which plaintiff asserts cover printing plates using Formula 21 do not, in fact, cover that sensitizer. Each of these generic claims, 1 (compound), 12 (printing plate) and 23 (process

for developing the printing plate), describe the diazo material as:



> in which X and X_1 are selected from the group consisting of N_2 and O, those attached to the same ring being different, Y is an organic linkage, Z is selected from the group consisting of oxygen and $-NR_1$ -radicals, R and R_1 are selected from the group consisting of hydrogen, lower alkyl, substituted lower alkyl and aryl radicals, and N, R, and Y taken together form a heterocyclic ring.

This definition might include Formula 21 except for the requirement that "N, R, and Y taken together form a heterocyclic ring." Although there was no expert testimony on this issue, the Court concludes that the compound of Formula 21 does not meet this restriction.

First, as defined in standard chemical dictionaries, of which the Court takes judicial notice, a "heterocyclic ring" is a "compound containing in its nucleus, besides carbon atoms,

one or more other atoms" such as nitrogen, oxygen or sulfur. As shown in the specification and claims of the patent, Formula 21 contains only ring structures composed solely of carbon atoms. Azoplate also admitted that when exposed to light, "The six membered ring rearranges to form a five membered ring with that carboxylic acid group on it and there is only carbon in the ring and . . . it is not heterocyclic." (Tr. Oral Arg. p. 63).

Second, the Court of Customs and Patent Appeals in reviewing this application noted, "[applicant] concedes the correctness of the board's statement that it would be impossible to meet the last limitation [N, R, and Y taken together form a heterocyclic ring] where R is hydrogen. . . ." In re Schmidt, supra, at 282. A comparison of Formula 21 with the claims shows that in this specific compound the constituent corresponding to R is hydrogen. Although not relying on the admission of plaintiff before a different tribunal, the Court does place great weight on the expertise of the Patent Office Board of Appeals in deciphering the meaning and scope of chemical terminology in patent application claims.

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20 Hackh's Chemical Dictionary, p. 407 (3rd ed. 1944). See also, Concise Chemical and Technical Dictionary, p. 462 (1962).

Third, correspondence between plaintiff's counsel and Kalle A.G. regarding whether the plates sold by GAF and sensitized with Sensitizer 97 were within the scope of the claims of this application, sheds some light on this issue. Although counsel was informed by Kalle that the sensitizer was included within the "broad formulas in claims 12 and 23" (DX 34H, p. 2), they later noted that in filing a continuation-in-part application this sensitizer would be "covered by claim 12, after defining Y in a suitable manner, cancelling the reference to a heterocyclic ring and where Z stands for $-NR_1$." (Emphasis added). (DX 34K) The conclusion is that Formula 21 is not covered by any specific or generic claims of the intermediate ('58) application.

Although Silverlith has demonstrated that the invention (positive presensitized printing plates using Sensitizer 97) was in public use and on sale more than one year prior to the filing of the '62 application in which it was first claimed, it errs in the assertion that the critical date for determining a statutory bar is the date when the subject matter was first claimed. Although in Muncie Gear Works, Inc. v. Outboard Marine & Mfg. Co., 315 U.S. 759 (1942), the Supreme Court so restricted a patentee

to the date of the amendment adding the claims, the Court stated:

> The claims in question are invalid if there was public use, or sale, of the device which they are claimed to cover, more than two years before the first disclosure thereof to the Patent Office. (Emphasis added) Id. at 768.[21]

And in Schriber-Schroth Co. v. Cleveland Trust Co., on which this statement was founded, the Court explained:

> [T]he application for a patent cannot be broadened by amendment so as to embrace an invention not described in the application, as filed, at least when adverse rights of the public have intervened. 305 U.S. 47, 57 (1938).

However, where the invention has been continuously disclosed in the application, an intervening public use or sale prior to the claiming of the invention will not constitute a bar. Locklin v. Switzer Bros. Inc., 299 F.2d 160, 166-167 (9th Cir. 1961); Trico Products Corp. v. Delman Co., 199 F.Supp. 231 (S.D. Iowa 1961); Technicon Instruments Corp. v. Coleman Instruments, Inc., 255 F.Supp. 630 (N.D. Ill. 1966); Coats Loaders

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21 The statutory period is presently one year. 35 U.S.C. § 102(b).

& Stackers, Inc. v. Henderson, 233 F.2d 915 (6th Cir. 1956). The language of 35 U.S.C. § 120 permits a patent to claim the filing date of an earlier application as long as the invention is adequately disclosed therein. Acme Highway Products Corp. v. D. S. Brown Company, 431 F.2d 1074 (6th Cir. 1970) and Technicon Instruments Corp. v. Coleman Instruments, supra. The statute does not condition priority on the existence of prior claims to the publicly used invention, but only upon a preexisting disclosure.

The dispositive question is whether the parent applications of the patent adequately disclosed Formula 21. Acme Highway Products Corp. v. D. S. Brown Company, supra. As previously noted, each of these applications identified as a suitable sensitizer the product of the reactants which are used to prepare Formula 21. These applications, therefore, would have supported claims in effect covering Formula 21 by identifying the reactants from which it is made. There is no evidence of record that this method of description does not adequately identify the Formula 21 compound. The Court finds, therefore, that the addition of the specific structural formula of this diazo and of examples describing its

production and use, was merely an elaboration of the disclosure of the earlier applications and not new matter. Accordingly, the patent is entitled to the filing date of the earlier applications and there is no bar because of intervening use or sale.

INFRINGEMENT

Azoplate has charged Silverlith with both direct and contributory infringement of the patent claims in that the manufacture of defendant's printing plates infringed the product claims while the sales of these plates to customers who developed them according to the process claims constituted contributory infringement. 35 U.S.C. § 271.

Product claims 1, 3, 4, 6 and 28 define a "presensitized printing plate comprising a base material having a coating thereon comprising" a specified diazo material. In particular plaintiff asserts that the particular sensitizer used by Silverlith corresponds to Formula 21, which is specifically covered by claim 28 of the patent. The other product claims alleged to be infringed cover broader groups of diazo compounds, among which is apparently Formula 21.

The record, particularly the testimony and deposition of Harper, indicate that beginning with the positive presensitized plates Silverlith made for GAF, these plates consisted of an aluminum base, a substrate, and a coating of a sensitizer it purchased under the designation of Sensitizer 97. There is no question that this product infringes the indicated claims if Sensitizer 97 is the diazo of Formula 21. The word "comprising" is synonymous with "including" and does not preclude the presence of other elements as a part of this structure. Harrington Manufacturing Co. v. White, 323 F.Supp. 1345, 1353 (N.D. Fla. 1971). The presence of the substrate, therefore, does not remove this plate from the coverage of the claims.

Silverlith continued purchasing Sensitizer 97 from GAF until sometime after January, 1959, when GAF received notice from Azoplate that these plates were covered by a pending Azoplate application. At that time GAF refused to sell Silverlith Sensitizer 97, but introduced Silverlith to Arapahoe Chemical Company from whom the sensitizer could be obtained. (Tr. 312-313) It is the product sensitized with Sensitizer 97 from Arapahoe that is alleged to have infringed the patent.

Plaintiff introduced the stipulated testimony of Dr. Martin Hultquist, associate director of research at Arapahoe. In essence he stated:

> That he is a chemist by training;
> That he directed the preparation of Sensitizer 97 for Arapahoe . . . which was sold to Silverlith . . .;
> That Sensitizer 97 was prepared substantially as described in Example 11 of [the patent] with minor variations in solvents used;
> That he has made no analysis of Sensitizer 97 and has not otherwise identified it but believes that it is a diazo sulfonate which has a structural formula identical to that of Formula 21 . . .;
> That it is his belief that Sensitizer 97 has a structural formula which would come within the structural formulae set out in Claims 1, 3, 4, 6, 28, 33, 35, 36, 38, 60. (PX 6).

Although Silverlith strenuously asserts that this is insufficient to prove infringement because of the absence of a proven chemical analysis, the Court need not reach that issue because of additional evidence. First, it appears that the research department of Kalle analyzed the GAF (Silverlith) positive presensitized printing plates in 1961 and identified the sensitizer as Formula 21. (DX 34H, I) Although this analysis preceded the issuance of the patent and was performed

on the sensitizer made by GAF, there is nothing in the record to demonstrate that this sensitizer designated Sensitizer 97 by both GAF and Arapahoe was a different chemical as prepared by each. Second, Harper was asked on deposition whether he was informed by Arapahoe that Sensitizer 97 corresponded to Formula 21. Harper conceded this point and, when asked if he had any reason to believe it was incorrect, responded, "Heavens no; I have no idea on earth." (PX 5, p. 74) None of the experts called by either side cast any doubt on the correctness of Dr. Hultquist's testimony.

Taking the evidence as a whole the Court is satisfied that infringement of the product claims has been proven. Certainly the evidence presented in support of infringement in this case is much stronger than that introduced in the cases relied on by Silverlith. Cf. Fried Krupp Aktien-Gesellschaft v. Midvale Steel Co., 191 F. 588, 611-612 (3rd Cir. 1911); George K. Hale Mfg. Co. v. Hafleigh & Co., et al., 52 F.2d 714, 717-719 (3rd Cir. 1931). Although the proof of infringement could have been more elaborate, only one conclusion can be drawn from this record: that the product claims were infringed.

The question of whether the sale of these infringing plates to the printing industry constituted contributory infringement depends on whether the use of these plates by the purchasers directly infringed the process claims. Claims 33, 35, 36, 38 and 60 define, as in the product claims, a process for using the printing plates by "exposing to light under a master . . . to thereby form a decomposition product in the light struck areas and removing the decomposition product by treatment with a weakly alkaline solution." There is no doubt that the purpose for which these photosensitive plates were sold was to be exposed to light under a master for preparation of a printing plate. The only element necessary to prove an infringing use is development with a weakly alkaline solution.

On this point, plaintiff introduced Harper's deposition in which he admitted with regard to the GAF plates:

> As you know, after exposure, the light struck areas are removable in alkaline solutions. These were the developers for clearing the non-printing areas. . . . So, the initial chemical supplies were a product for clearing the background of this plate with this alkaline solution. . . . (PX 5, p. 169).

Although this admission was related to the plates produced with GAF Sensitizer 97 prior to the issuance of the patent, Azoplate's expert testified that Silverlith's developer was obtained and analyzed in 1964 and found to have a pH of 8.7 or, in other words, that it was slightly alkaline. (Tr. 218-219) All of the expert witnesses who prepared printing plates sensitized with Formula 21 did so with an alkaline solution.

Again, the Court is not presented with the clearest evidence of infringement, but the only evidence of record leads to the conclusion, the positive presensitized plates sold by Silverlith were exposed to light under a master and developed with a weakly alkaline solution. Since Silverlith was aware that its plates were alleged to have infringed the product claims and that the exposed plates were developed with an alkaline solution, it necessarily knew that its purchasers in using the plates would infringe the process claims. Accordingly, the Court finds that Silverlith's sales of presensitized positive printing plates constituted contributory infringement of the patent.

ANTITRUST

Silverlith's counterclaim alleges that Azoplate has violated Sections 1, 2, and 3 of the Sherman Act in attempting and conspiring to monopolize the presensitized positive printing plate market. The claim largely rests on the assertions (1) that Azoplate knowingly misrepresented material facts to the Patent Office and thereby obtained the patent by fraud and, (2) that Azoplate attempted to monopolize the market and put defendant out of business by embarking "upon a course of conduct involving threats to defendant's customers, beginning years before the patent issued and continuing after the patent issued, while refusing all requests of defendant for a license." Silverlith seeks treble-damages for these alleged violations of the anti-trust laws.

The principal theory upon which Silverlith relies is that stated in Walker Process Equipment, Inc. v. Food Machinery & Chemical Corp., 382 U.S. 172, 179 (1965) in which the Supreme Court held:

> [T]hat a treble-damage action for monopolization which, but for the existence of a

> patent, would be violative of § 2 of the Sherman Act may be maintained under § 4 of the Clayton Act if two conditions are satisfied: (1) the relevant patent is shown to have been procured by knowing and willful fraud practiced by the defendant on the Patent Office . . . and (2) all the elements otherwise necessary to establish a § 2 monopolization charge are proved. Id. at 179 (concurring opinion of Justice Harlan).

Because, as previously discussed, this Court has concluded that the 110 patent was not procured by fraud, an essential element of this claim is not present here. It follows that any acts to enforce the patent monopoly which do not otherwise attempt unlawfully to extend that monopoly are insulated from the anti-trust laws.

The sole remaining issue is whether, in the absence of any fraudulent procurement of the 110 patent, Azoplate or its affiliates are guilty of attempting or conspiring to monopolize the presensitized positive plate market.[22] In this connection, Silverlith contends that Azoplate has achieved its predominant position in the presensitized positive printing plate market through illegal threats against Silverlith's customers.[23]

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22 Neither party has adequately briefed this issue.

23 Azoplate captured over seventy-five percent of the pre-

The evidence, however, shows only the exercise by plaintiff of its lawful monopoly.

Silverlith relies on two letters written by von Meister to Silverlith customers in 1959, before the 110 patent issued. Von Meister's letter to GAF, which is similar to his letter to Harris Intertype Corporation, stated:

> This letter refers to the "Ozalith Aluminum Positive Working Offset Plate" which has recently been placed on the market by the Ozalid Division of your corporation and which is being distributed by the Interchemical Corporation, Printing Ink Division.
>
> It has been determined that the diazo compound used to sensitize the surface of this plate is a compound which falls within the scope and claims of one of our patent applications which we expect will issue to a U.S. patent shortly.
>
> We felt it to be desirable to draw this fact to your attention, and to the attention of your distributor of this product. We have written to the Interchemical Corporation, Printing Ink Division, as per carbon attached hereto.
>
> We hope that you will be guided accordingly. . . . (DX 22).

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sensitized positive printing plate market by 1966-1967. (DX 30, pp. 38-39; DX 28, p. 8) Silverlith, which had sales in excess of $150,000 in 1961, went out of business following the issuance of the patent. (Tr. 319; DX 39).

The tone of this letter is informative, not threatening, and all of its representations are accurate. Von Meister testified that its purpose "was to advise people who I knew that our patent applications would cover the product that they were currently marketing." He left to their judgment the course to follow once the information was received. (Tr. 103-104) The Court finds that these letters fail to show any intent unlawfully to monopolize the relevant market.[24]

In July, 1962, Azoplate notified GAF and Harris that the 110 patent had issued. Harris and GAF refused thereafter to deal with Silverlith, and Harris turned to Azoplate for its supply of positive presensitized plates. (Tr. 36, 337-348) At the same time, plaintiff refused to grant defendant a license under the patent, and Silverlith's market position declined

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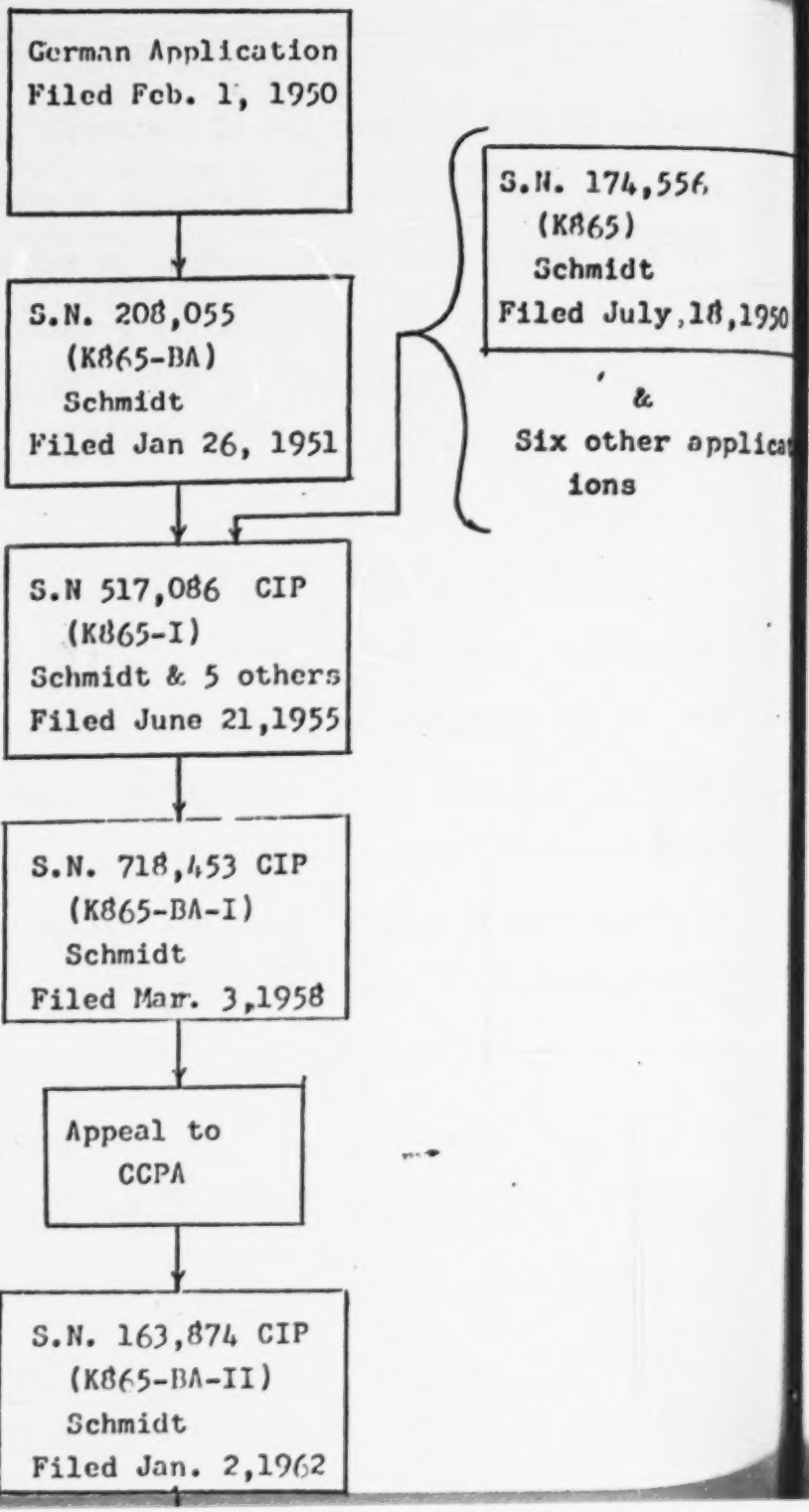
24 Silverlith urges that a malicious and threatening intent is proven by a letter von Meister wrote to Azoplate's counsel in 1958 noting that Harris Intertype recently entered the market and that Harris was then being sued for infringement of a different patent. (DX 21) This letter creates no inference of an unlawful intent. The Court also notes that despite the 1959 letters, both GAF and Harris continued trading with Silverlith until the 110 patent issued in 1962. (PX 5, pp. 153-155; Tr. 323).

until, in 1966, it went out of business. (Tr. 319; DX 39). Azoplate's activities were merely an exercise of "the right to exclude others from making, using, or selling the invention." 35 U.S.C. § 154. At no point did Azoplate knowingly misstate the scope of its monopoly, nor did it attempt to extend the monopoly beyond its lawful limit. Compare, Art Metal Works v. Abraham & Straus, 70 F.2d 641, 645 (2nd Cir. 1934) (dissenting opinion of L. Hand), adopted per curiam, 107 F.2d 944 (2nd Cir. 1939), cert. denied, 308 U.S. 621. Similarly, Silverlith has failed to prove any conspiracy between Azoplate and its affiliates, Kalle, Engelhard Industries, or American Hoechst Corporation to monopolize the relevant market; rather the evidence shows prosecution of a lawful patent monopoly. Accordingly, this Court concludes that plaintiff has not violated the antitrust laws.

In conclusion, the Court finds that Patent No. 3,046,110 is valid and infringed, and that plaintiff has neither misused its patent nor violated the antitrust laws.

Submit order in accordance herewith.


German Application
Filed Feb. 1, 1950
S.N. 208,055
(K865-BA)
Schmidt
Filed Jan 26, 1951
S.N. 174,556
(K865)
Schmidt
Filed July 18,1950
&
Six other applica
ions
S.N 517,086 CIP
(K865-I)
Schmidt & 5 others
Filed June 21,1955
S.N. 718,453 CIP
(K865-BA-I)
Schmidt
Filed Mar. 3,1958
Appeal to
CCPA
S.N. 163,874 CIP
(K865-BA-II)
Schmidt
Filed Jan. 2,1962

v.	)	Civil Action No. 3235
	)	
SILVERLITH, INC.,	)	
	)	
Defendant.	)	

JUDGMENT

This cause came on to be tried before the Court sitting without a jury, and the Court having considered the evidence introduced by the parties and the trial briefs and arguments presented on their behalf, and having heretofore made and filed its Findings of Fact and Conclusions of Law, it is hereby

ORDERED, ADJUDGED, AND DECREED AS FOLLOWS:

1. United States Letters Patent No. 3,046,110 and each and every claim thereof is good and valid in law.

2. Plaintiff, Azoplate Corporation, is possessed of the entire right, title and interest in and to said Letters Patent No. 3,046,110, together with the right to sue for and collect for damages for past infringement thereof and has been possessed thereof continuously since the issuance of said Letters Patent.

3. Defendant, Silverlith Inc., has directly infringed claims of said Letters Patent No. 3,046,110, by making and selling presensitized printing plates incorporating the invention of the patent in suit. Silverlith, Inc. has contributorily infringed claims of said Letters Patent No. 3,046,110, by

selling presensitized printing plates to customers who performed the process of process claims of the patent.

4. Plaintiff, Azoplate Corporation, is entitled to recover of defendant the damages which it has sustained by reason of the sale of said infringing plates, or their substantial equivalents, on or after July 24, 1962.

5. Defendant, Silverlith, Inc., its officers, agents, servants, and employees, are hereby restrained and enjoined from and after the date hereof and until July 24, 1979, from directly or indirectly or contributorily infringing any claim of said Letters Patent No. 3,046,110, by making, using, or selling or causing to be made, used, or sold, printing plates infringing any claim of said Letters Patent No. 3,046,110.

6. The charges of defendant, Silverlith, Inc., that plaintiff, Azoplate Corporation, has misused Letters Patent No. 3,046,110, and has violated the antitrust laws are without merit.

7. Judgment is hereby entered against defendant for costs. All other matters, including the determination of the amount to be awarded as damages, are reserved for later disposition. This judgment is final except for the accounting.

Caleb M. Wright
United States District Judge

Date: _____

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Morris Ave. and Beaver Street

Summit / New Jersey / USA

TEP-MEG-jg Oct. 12, 1954

K 865 Cases

Dear Mr. von Meister,

The following conclusions are transmitted to you as a result of discussions and further tests involving the efforts of Drs. Mauss, Neugenbauer, Schmidt, Traetzel, Sus and myself. We have delayed the transmission of this information until we explored all practical possibilities.

Attached hereto is a summary of facts we found which brought us to these conclusions. We approached the problem with the desire to learn all the facts about our compounds, which could enable us to distinguish if possible, from the references cited against us. We did not accept a preconceived conclusion and seek only those facts which supported it.

1. We cannot maintain that there is a group of compounds of the ortho-quinone-diasides of the naphtalene and benzene series, which are sulfonamides, sulfonic acid esters, carboxylic acid amides and carboxylic acid esters, which we can distinguish from the prior references only on the basis of molecular weight of a particular limit.

2. Similarly, we cannot maintain such a distinction only on the basis of the degree of water solubility of these compounds.

3. We have not found any structural differences between the K 865 series compounds which distinguish them as a group from the compounds of the prior references.

4. We have not found that the K 865 series compounds can be distinguished from the prior references by a simultaneous requirement of molecular weight and water solubility limits.

5. If we drop all aliphatically substituted compounds we can try to claim aromatically substituted compounds. The prior references show only aromatically substituted sulfonamides which can be distinguished as having only one ring in the "side chain" to the SO_2-OH group. We can claim all other aromatically substituted compounds of the K 865 series.

We intend to proceed to work out three new applications based on the K 865 cases which will combine the disclosures under the sulfonic acid and the carboxylic acid groupings. Further tests have yet to be made in order to provide additional examples for the new cases and to show superiority over the compounds of the references, if possible.

To
Mr. von Meister, c/o Azoplate, Summit TEP-MEG-jg Oct. 12,1954 2

Re: K 865 Cases

If the restriction of the casts along the lines proposed above is not acceptable then please let us know of another course to follow.

Very truly yours

N. B.:

This letter together with the accompanying memorandum contains information which casts doubt upon and may prove embarassing when presented to a court should any of our patents get into litigation. Consequently these papers should be kept accounted for and no further mention in writing should be sale thereto. If litigation is later contemplated they can be destroyed or removed from the files. Dr. K. Huber will no doubt inform you of recent decisions which required corporations to produce all correspondence relating to a patent in litigation; even those between a corporation patent department and other employees of the corporation.

Copies to: Dr. K. Huber, c/o Azoplate Corp., Summit, N.J.
Dr. M.A. Landau, c/o Azoplate Corp., Summit, N.J.
Dr. Karl Huber, Newark 5, N.J.
Dr. Karl Traetzel
Mr. M.E. Gilbert

If we attempted to prove that our compounds gave "good working plates" whereas all the compounds of the prior art did not, then how would we define "good working plate"? As far as is known there is no accepted definition in the trade, or recognized authority we could cite, which establishes that sensitized plates must give 5000 or 1000 or more copies to be acceptable. Such a definition or limit is therefore merely arbitrary and cannot be used as a criterion of distinction. For example, the paper plate of G.A.F., when used in the rotary press, gave 400 excellent copies. Apparently the trade is willing to accept plates which give short runs also of less than 1000 or 5000 copies. We realized that the only criterion was whether a sensitized plate gave an image upon development with a "weakly alkaline aqueous solution" (as stated in our method) and whether one or more prints could be made therefrom.

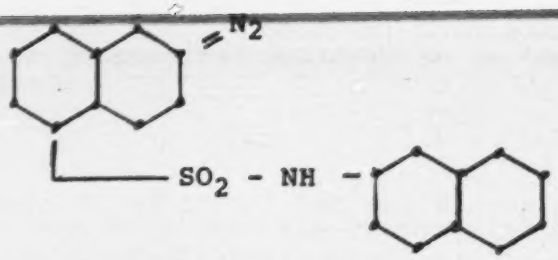
To establish a molecular weight limitation we must then set it at such a value that all our compounds were above this limit and all the prior art compounds were below this limit, and furthermore, that all the prior art compounds could not be developed to a printable image with alkaline treatment, whereas all our compounds could be developed to a printable image.

The first tested the ethyl ester (mol. wt. 273) of the French Patent, Example 7 (and also the P.B. reports and case K 825). As had previously been found, if the ethyl ester were coated in a 2% solution in glycol-monomethyl ether on a brushed aluminum surface, dried, and then developed with a 100 ccm aqueous solution containing 2 gr tri-sodium phosphate and 4 gr di-sodium phosphate, after exposure under a positive master, both the exposed and the unexposed diazo compound are removed. However, when under the same conditions we developed the exposed foil with sodium acetate or 5% di-sodium phosphate, a very clear image was obtained upon inking by hand. Moreover, about 50 copies could be run off in a rotary press before the image was removed. We noted that upon inking up such a plate in a rotary press for about 10 revolutions the image began to be removed in part. It was obvious therefore, that with some compounds of lower molecular weight, the number of copies could be varied by the manner in which both the inking and the printing was done. A rotary (Rotaprint) machine placed a strong pressure upon the plate and weakly adhering images might be removed upon inking or printing in such a machine. A flat bed press, such as "OZAPLAN" exerted lesser pressure on a plate, and if the inking and printing were done by hand it would be possible to get even more copies.

This variation in alkalinity of the developer indicated that with lower weight compounds a developer of a pH approaching neutral must be used to get an image, whereas with higher weight compounds a developer of stronger alkalinity (pH of 12 or 13) must be used.

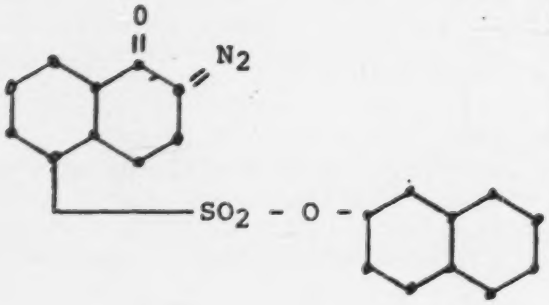
This explained why when using compounds such as:

MS 137
(mol. wt. 374)



and

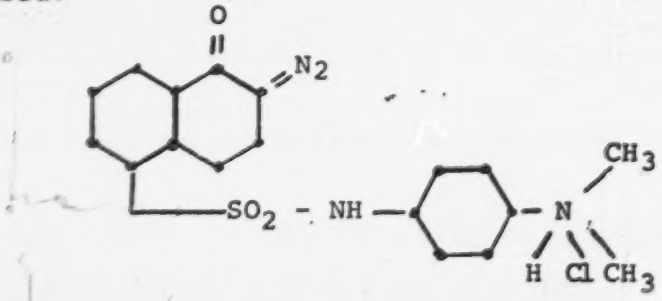
MS 154
(mol. wt. 375)



and developing with a stronger alkaline solution (pH 12 or 13) e. g. 4% di-sodium phosphate and 2% tri-sodium phosphate, the image is removed; whereas upon developing with a weaker alkaline solution e. g. 5% di-sodium phosphate, a good image is obtained which can be inked and from which 5000 or more copies can be made.

In the P.B. reports and in case K 825 (Examples 6 and 7) the following compound is disclosed:

SD 367
(mol. wt. 404,5)



This compound having a molecular weight above the limit we had in mind, and being already disclosed, indicated that on the basis of molecular weight alone we could not distinguish the K 865 compounds; i. e. a limit of 390 would include compounds such as SD 367 which are known and exclude compounds such as MS 137 and MS 154 which work. Moreover, a compound such as

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